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May 5, 2004

PUBLIC UTILITIES
COMMISSION

MAY 6 10 38 AM '04

Public Utilities Commission
State of Hawaii
465 South King St., Rm. 103
Honolulu, HI 96813

ATTENTION: Chief Clerk of the Commission

Re: In the matter of PUBLIC UTILITIES COMMISSION Instituting
a Proceeding to Investigate Distributed Generation In
Hawaii; Docket No. 03-0371

Dear Chief Clerk of the Commission:

Enclosed for filing is the following:

1. COUNTY OF MAUI'S PRELIMINARY STATEMENT OF POSITION;
CERTIFICATE OF SERVICE (Original + 10)

Please return the file-marked copies to this office. A self-addressed, stamped, envelope is enclosed for your convenience.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Kay A. Oganawara (Secretary)
CINDY Y. YOUNG
Deputy Corporation Counsel

CYY:ko
Enclosures

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ORIGINAL

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of)
)
PUBLIC UTILITIES COMMISSION)
)
Instituting a Proceeding to)
Investigate Distributed)
Generation in Hawaii.)
_____)

DOCKET NO. 03-0371

COUNTY OF MAUI'S PRELIMINARY STATEMENT OF POSITION
CERTIFICATE OF SERVICE

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PUBLIC UTILITIES
COMMISSION

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII

In the Matter of)	
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COUNTY OF MAUI'S PRELIMINARY STATEMENT OF POSITION

1.

INTRODUCTION

Over the next five years, distributed generation ("DG"), in the form of combined heat and power ("CHP") systems, can be expected to save some of Hawaii's large energy consumers a significant amount of energy and money and improve those consumers' system reliability and emergency energy capability. The expected growth of the DG CHP market sector can significantly defer near term electric utility load growth in power generation and transmission/distribution capacity.

Also over the next five years, the backup generators of some of Hawaii's large energy consumers can be networked together to become "virtual" backup power plants for the electric utilities. Upgrading and optimizing the use of existing distributed generation ("DG") resources, vis-a-vis backup generators, can result in cost savings for electric utilities, additional revenue for consumer-generators, improved onsite and grid reliability, and increased use of clean gas and renewable biofuels.

Within the next ten years, small and mid-sized DG products will be potentially more viable for Hawaii's residential energy consumers and small-to-mid sized commercial energy consumers. The DG solar market sector would significantly increase if photovoltaic roofing materials become cheaper and more product choices become available. The DG CHP market sector would significantly increase if emerging stirling engine and fuel cell generators become commercially viable.

In the next twenty to thirty years, DG products and services have the potential to become ubiquitous and interactive, similar to personal computer products which are commonplace and networked together via the Internet. Energy internets could evolve from the central generation model into an interconnected and interactive network of central and distributed generation.¹

No one can predict with certainty the amount of DG that will be operating in Hawaii in the next twenty years because there are too many variables and uncertainties. However, the potential benefits of DG suggest that Hawaii should facilitate growth of the nascent DG industry. It is our position that promoting fair market competition is the best way to encourage DG industry growth. This is the best approach for determining the optimal type and amount of DG in Hawaii's various energy market sectors. The COUNTY'S recommendations supporting this position follow.

¹Over the past thirty years, this envisioned energy internet has been referred to by different names, including "Distributed Utility", "Energy Web", and "Intergrid".

2.

REVISING RATES AND CHARGES

The COUNTY may recommend that changes should be made to electric rates and hookup charges to promote fair market competition between electric utility services and DG services. The COUNTY is researching rate designs and cost allocation mechanisms and is planning to collaborate with other parties in this proceeding with similar interests. The COUNTY's testimony and final positions and recommendations on this matter will be based upon the results of our research and collaboration.

3.

CONDUCTING DG DUE DILIGENCE REVIEWS

The COUNTY recommends that electric utilities conduct reviews to identify DG alternatives for all proposed transmission and distribution system additions or upgrades. Current utility planning does not consider DG as an option for providing capacity for transmission and distribution systems. A DG due diligence review will facilitate fair competition between DG options and transmission and distribution system options.

4.

DEVELOPING A "VIRTUAL" UTILITY BACKUP POWER PLANT

The COUNTY recommends the electric utility develop "virtual" utility backup power plants because it would upgrade and optimize the use of a major portion of Hawaii's existing DG inventory, specifically large consumer backup generators. Building upon the

Virtual Power Plant concept trademarked by Encorp, Inc.², the COUNTY recommends that the Maui Electric Company, Inc. ("MECO") aggregate the COUNTY's larger backup generators, together with other large commercial backup generators, and create a "virtual" backup power plant by installing synchronizing interconnection equipment, telemetry, and computer monitoring and control equipment for the backup generators. MECO would then be able to seamlessly dispatch the aggregated "virtual" utility backup power plant as if it were an actual generating unit at one of their central power stations. Maintenance and fueling functions could also be provided by MECO and fuel switching from diesel to gaseous fuels, biodiesel, or other biofuels could be required. MECO would acquire access to a low cost and flexible "virtual" backup power plant, consumer-generators would generate revenues, and onsite and grid reliability would improve. The technology to develop "virtual" power systems is commercially available and has been successfully demonstrated by a private company on Maui.³

The COUNTY further recommends that the best role for the electric companies is that of a market facilitator, not as a market competitor, and that this recommendation is a good example of how the electric utilities can facilitate the DG marketplace.

² See <http://www.encorp.com/dwnld/pdf/prodsheet/VPP-TechDataSheet.pdf>.

³ See <http://www.encorp.com/content.asp?cmsID=74>.

ESTABLISHING COUNTY WHEELING

The COUNTY recommends that a county-specific wheeling tariff be established to allow the COUNTY to wheel power from a county DG system to other county facilities. The ability to wheel power would allow the COUNTY to optimize the performance of DG systems, thereby allowing the optimized DG systems to compete against standard utility service. For example, installing a CHP system to heat a small county swimming pool may not be cost effective because the electric load at the pool may be too small to utilize the full electrical output from a CHP system. However, a county-specific wheeling tariff would allow the county to wheel the excess electricity to another facility, thereby optimizing the performance and cost effectiveness of a CHP system. In instances like this, county-specific wheeling would create competitive opportunities for DG that would have not otherwise been available.

A county-specific wheeling tariff is justified because the COUNTY has statutory fiduciary responsibilities which distinguishes the COUNTY from other utility customers. Further, a county-specific wheeling tariff can be easily controlled to create electric utility benefits and to eliminate negative impacts to the electric utility. For instance, a county-specific wheeling tariff could allow county wheeling projects only during periods of utility load growth to provide energy and capacity savings to the utility. Conversely, a county-specific wheeling tariff could disallow county

wheeling projects during periods of no or negative load growth to protect the utility from lost revenues.

6.

CONCLUSION

The COUNTY is continuing to study the issues identified in the Prehearing Order No. 20922. The COUNTY will address a number of issues that we believe will enhance overall utility system reliability, reduce overall utility system cost, improve the equity of cost imposition on customers, help to reduce the burden of increasing energy development on the rights of way and vistas of Maui, and protect the fragile Hawaiian environment. The COUNTY invites other parties with common interests to collaborate with us.

DATED: Wailuku, Maui, Hawaii, May 5, 2004.

BRIAN T. MOTO
Corporation Counsel
Attorney for Intervenor
COUNTY OF MAUI

By Cindy Y. Young
CINDY Y. YOUNG
Deputy Corporation Counsel

CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was duly served upon the following by the manner indicated hereinbelow on May 5, 2004, addressed as follows:

	METHOD OF SERVICE
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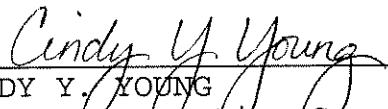
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DATED: Wailuku, Maui, Hawaii, May 5, 2004.

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By


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